

REMARKS

1. Claim Rejections - 35 U.S.C. §103(a) – Claims 1-20

Claims 1-20 are pending in the present application and were rejected in the Office action dated May 7, 2004 under 35 U.S.C. § 103(a) as being unpatentable over Estakhri et al. (U.S. Patent No. 5,835,935) and in view of Konishi et al. (U.S. Patent No. 5,579,502). Applicant respectfully traverses this rejection. However, in order to provide clarification, claims 1, 10, 17, and 20 have been amended. Claims 1, 10, 17, and 20 are independent claims. Claims 2-9 depend from independent claim 1; claims 11-16 depend from independent claim 10; and claims 18-19 depend from independent claim 17. For brevity, only the bases for the rejection of the independent claims are traversed in detail on the understanding that the dependent claims are also patentably distinct over the cited references, as they depend directly from their respective independent claims. Nevertheless, the dependent claims include additional features that, in combination with those of their respective independent claims, provide further, separate, and independent bases for patentability.

The Examiner has stated, “Estakhri et al. discloses a memory controller 200 for accessing a memory 212 having a plurality of blocks (clusters) each constituted of a plurality of pages (sectors) based on a host address supplied from a host computer.” The Examiner further states, “Estakhri also discloses table 144 holding flag information regarding the sectors within the memory, which is consulted at the time of a read or write access.” However, the Examiner admits, “Estakhri does not disclose [1] decision means responsive to a request to write user data issued by the host computer for determining whether progressive data writing for writing user data to a target page designated by the host address is possible; and [2] write means responsive to an affirmative determination by the decision means for writing user data to the target page without performing an inter-block data transfer.” Nevertheless, the Examiner states, “Konishi et al. discloses searching a management table for a free block in a memory to write data to.” Finally, the Examiner asserted that “[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to add a ‘free block’ flag to the table of Estakhri et al. and to integrate the free block table searching procedure of Konishi et al. in order to facilitate the finding of free sectors within the memory when computer updates are being applied to the memory clusters.”

Additionally, in the “Response to Arguments” section, the Examiner stated, “Estakhri discloses a flag for showing whether or not data is written to a redundant area; and Konishi discloses writing a start page of a block in a management table (translation table) wherein the start page is written if a write error occurs.” The Examiner further goes on to state, “It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the method of Konishi of writing a start page of a block in a management table (translation table) wherein the start page is written if a write error occurs with the redundant flag of Estakhri because the redundant flag indicates the error causing the writing of the start page on the management table (“based on start page data written to a redundant area”).

Nevertheless, the Estakhri et al. and Konishi et al. patents do not teach or suggest each and every element of the claimed invention, either alone or in combination. In this regard, the Estakhri et al. patent does not teach or suggest a memory controller that includes a decision means, responsive to a request to write user data issued by the host computer, for determining whether progressive data writing for writing user data to a target page designated by the host address is possible, wherein the decision means makes the determination based on start page data which was written to a redundant area, “and wherein start page data is written in redundant areas of all pages of a physical block in which data is writable by performing a series of data write operations, enabling determination of whether data has been written in redundant areas of all pages or only in a part thereof, in response to abnormal interruption.”

Specifically, in the Estakhri et al. patent, a flag is disclosed for showing whether or not data is written to a redundant area. Importantly, however, although a flag is disclosed for showing whether or not data is written to a redundant area in the Estakhri et al. patent, this flag does not enable a determination of whether data has been written in redundant areas of all pages or only in a part thereof, in response to abnormal interruption.

Support for the amendment to the claims is found at page 36, line 16 to page 39, line 10 and from page 46, line 18 to page 47, line 13. In particular, the specification of the present application explains, with reference to Figure 8, that data “3” is written as start page data 33 in redundant areas of pages #0 to #2 of the physical block #4 in which data is to be written by performing a series of data write operations. Additionally, the specification of the present application explains, with reference to Figure 9, that data “5” is written as start page data 33 in

redundant areas of pages #3 to #4 of the physical block #4 in which data is to be written by performing a series of data write operations.

Referring again to the above example regarding Figure 8, in the claimed invention, if the series of data write operations are abnormally interrupted (e.g., the system power turns off for some reason), it is possible to judge a page in which data has been written based on the start page data written therein. Therefore, it is possible to judge whether or not errors occurred during the series of data write operations by using the claimed invention. This is a clear advancement over the cited references since it is desirable to write start page data in redundant areas of all pages of a physical block in which data is to be written by performing a series of data write operations.

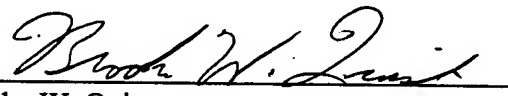
Thus, the Estakhri et al. and Konishi et al. patents do not teach or suggest each and every element of the claimed invention, either alone or in combination. Accordingly, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejection of claims 1-20 as unpatentable over Estakhri et al. in view of Konishi et al. has been overcome.

CONCLUSION

Applicant has made an earnest and bona fide effort to clarify the issues before the Examiner and to place this case in condition for allowance. In view of the foregoing discussions, it is believed clear that the differences between the claimed invention and the cited references are such that the claimed invention is patentably distinct over the cited references. Therefore, consideration and allowance of claims 1-20 is believed to be in order, and an early Notice of Allowance to this effect is respectfully requested. If the Examiner should have any questions concerning the foregoing, the Examiner is invited to telephone the undersigned attorney at (310) 712-8319. The undersigned attorney can normally be reached Monday through Friday from about 9:30 AM to 6:30 PM Pacific Time.

Respectfully submitted,

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